

Manchester has fastest growth rate, v-c says

by Frances Gibb

Manchester University has grown faster than any other non-federal British university in the last five years, Sir Arthur Armitage, the university's vice-chancellor, said this week.

In his annual address to the university court, he said that between 1972 and 1977, the university had expanded by nearly 1,950 students to a total of 10,722. The numbers of students in the faculty of medicine had doubled, and it was now the biggest in Western Europe, producing 275 doctors a year.

He also said that the proportion of science and technology students had risen from 45 per cent to 52 per cent. This expansion in costly subjects had been achieved at a time of financial austerity, when the value of universities' income per student had fallen by no less than 13 per cent, and at Manchester by 15 per cent in real terms.

Sir Arthur paid tribute to the dedication and loyalty of staff who were coping with the growth at a time when they themselves were the "victims of grave injustice", with their salaries 20 per cent below what they should be.

Demand from students continued to grow, Sir Arthur continued. Applications for places this October were up 10 per cent over last year. He expected Manchester's total number of students would rise from 10,722 in 1976-77 to about 11,500 in 1980-81, of which 9,200 would be undergraduates.

He added that he did not think the expected fall in student demand after that date would be as sharp as crude population statistics suggested.

Commenting on the university's links with industry, the vice-chancellor said that in the past year the university had received over £2m in grants from outside bodies for 168 new research projects, and 50 new research consultancies had been approved.



Sir Arthur Armitage

"This indicates the vigour and strength of our research activity," he said. "Contract research, consultancies, testing facilities and the provision of intensive post-experience courses are all ways in which the universities are directly assisting industry."

Sir Arthur emphasized the importance for research of a dual system of support from research councils and from the University Grants Committee. Research should not be squeezed out by teaching or by cuts in the budgets of research councils. It is important also that equipment grants should be maintained at an adequate level to permit the replacement and renewal of obsolescent equipment, he said.

He said that universities were making a major contribution to the country's economic recovery by providing high quality, highly trained manpower for industry, commerce, the public services and professions.

NELP faculty may merge with independent study school

by Sue Reid

North East London Polytechnic may merge its founding faculty of arts and its rapidly expanding school for independent study.

The controversial plan, still under debate, has been forced on the college by the Government's proposals for a cutback in its teacher training and research and is being reviewed by the Council for National Academic Awards to validate its degree course in humanities.

It was suggested by Dr George Johnson, the polytechnic's director, in a report to the governors in March. He claimed that the college's faculty of arts offered too few courses able to attract students, while the school for independent study was well able to keep its intake buoyant.

He added: "This has actual and potential inferences for staffing, while the converse applies in the school for independent study."

Under the Government proposals the faculty's department of education will take its last students on to its full-time BEd course in September. From that date its initial intake to teacher training will be limited to 100 postgraduate and post-diploma students.

The department of humanities currently offers only one degree, a BA in social studies—modern France, which Dr Brown in his report maintained had "not been attractive to students". No students enrolled in 1974, only 17 in 1975, and 11 last September.

Hopes that the CNAA validation of the department's degree in humanities would "save the day" have now been lost. Dr Brown's report said: "The department has now been told to approve a degree in humanities which was recently submitted for the fourth time by that department."

"This proposed course has a long and uniformly unfavourable history, having been started in a somewhat different form by the then Barking Regional College (a constituent college of the polytechnic)."

A BA English studies programme and a BEd honours course being developed have not been submitted to the CNAA. Conversely the polytechnic's school for independent study has admitted 260 students on to its full-time Diploma of Higher Education in the past three years. Response to its newly launched degree by independent study and part-time DipHE has also been buoyant.

Polytechnic names director

Mr George Seabrooke

Mr George Seabrooke, deputy director of North East London Polytechnic, has been appointed director of Wolverhampton Polytechnic.

Mr Seabrooke will take up his new post in September on the retirement of Robert Scott.

Mr Seabrooke was a lecturer in South West London College before becoming a principal lecturer at Nottingham Regional College of Technology in 1962. Three years later he was appointed head of department and when the college came Trent Polytechnic in 1969 he was promoted dean of school.

He took up his present appointment at NELP in 1973.

The two new companies will be Lesley Products (toy makers and diecasters) with North East London Polytechnic, and Anderson Strathclyde (manufacturers of mining and industrial equipment) with Strathclyde University. They will receive grants of £135,000 and £139,000 respectively over four years.

Proposals from another two universities and two polytechnics are under discussion, and announcements are likely to be made in the autumn. Dr Nicholas Lawrence, the SRC's teaching companies officer, said:

The DoI and the SRC are also considering whether to set up a small central body to coordinate the teaching companies programme and give help, advice and publicity when they are needed.

The NELP/Lesley scheme will be controlled by a management committee chaired by Lesney managing director Mr Don Marsden. Director of studies will be NELP's dean of engineering, Mr Jim Proctor. Initially two "industrial associates" (age 24-29, salary up to £4,000) and two "senior industrial associates" (age 27-33, salary around £6,000) will be appointed on two-year contracts, and a total of six will be employed during the first four years.

A similar university/company committee will run the Strathclyde project. The university will attach an outstanding postgraduate research engineer to the company for three or four years, as well as recruiting three or four postgraduate students a year on a two-year basis.

Dr Strathclyde and NELP expect the benefits of their association with teaching companies to be shared by all students and staff in the departments concerned, not just by those engaged on projects.

The postgraduate posts will be advertised widely, and polytechnic and university are expecting a good response from top quality engineers. Those accepted will probably register initially for an MSc degree, though they may be able to extend it to a PhD.

The five pilot teaching companies, which have given three-year grants totalling £600,000, have inevitably suffered some teaching troubles, Dr Lawrence says, but they are off to a good start. The universities concerned are Aston, Manchester, Loughborough and Birmingham, leader, page 14

£3m expansion for teaching companies

by Clive Cookson

The Science Research Council and the Department of Industry are to spend £3m each over the next five years to expand the teaching company programme.

Five pilot schemes were started by English universities in 1975-76, another two were announced yesterday (one at a polytechnic and one at a Scottish university) and the target is to have 20 in operation by 1982.

The aim of a teaching company, according to the SRC and the DoI, is "to provide the engineering equivalent of a teaching hospital, where experienced practitioners, researchers and students intermingle and cross-fertilize ideas while doing a job in a real environment."

All the teaching companies so far have been based on a partnership between an individual university and an individual firm. Young engineers receive postgraduate training under the supervision of industrial and academic staff, working on real projects within the firm.

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May 20, 1977. No. 291

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Universities 2 per cent worse off next year than predicted

by Frances Gibb

The universities' recurrent grant for next year implies a cut in real terms of 3 per cent and not 1 per cent as announced by the Government, according to latest predictions from university finance officers.

Estimates submitted last week to the Committee of Vice-Chancellors and Principals, finance officers calculate that with a 5 per cent increase on salaries and 12 per cent increase on non-pay items, the target is to have 20 in operation by 1982.

One finance officer said the difference between a reduction of 1 per cent and 3 per cent was extremely serious. There had been a cut of 2 per cent across the board because of the much larger share of the recurrent grant given to medical schools, he said. In addition, the UGC had not taken into account the cost of incremental drift, which added another 1 per cent to the cut.

Mr Laurie Sapper, general secretary of the AUT, said, however, that there had been no incremental drift overall, although some individual universities may have suffered it. Taking the universities together, there had been incremental ebb (a drop in the cost of paying increments), and this had been agreed with the UGC and Department of Education and Science.

Commenting on the estimated shortfall in the grant, he said it arose because this year's recurrent grant was based on an inflation rate in single figures, which was forecast by the Government at the time the grant was sorted. Inflation had run into double figures, however, so the basis for working out 1977/78 grant was already inadequate.

The recurrent grant for 1977-78 may well imply a cut of 7 or 8 per cent, Professor David King, president of the AUT, said in his opening address to the association's annual conference in Liverpool this week.

Asking what he called the "absurdity of the cash limit system", he said that it had not been clear on what basis the figure of a 1 per cent cut had been calculated.

"The figure (for the grant) was fixed well in advance of the settlement of pay awards. Forecasting the new pay policy and the rate of inflation this far ahead is simply not feasible."

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Jobs 'unaffected by birthrate'

The falling birthrate is not an important factor in the present teacher unemployment, according to Cambridge economist Professor W. B. Reddaway in the latest edition of *Lloyd's Bank Review*.

Over that period the number of teachers employed in schools went up from 318,000 to 412,000. The mistake of increasing teacher training too much was not only due to the erroneous assumptions about birthrates, writes Professor Reddaway. "What was done to match the increase in the school population. Nearly twice as many (15.2 per cent) were taken on to reduce the teacher-pupil ratio or the number of children, plus a 1 per cent (114,000) to make up for teachers who retired, died or left the profession."

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Professor Johnson dies

Professor Harry Johnson, economist and former Lord of the Treasury, died on May 18.

Professor Johnson was born in 1901 and was educated at Eton and Balliol College, Oxford. He was a member of the British Economic Association and the Royal Society. He held a chair at the LSE from 1966 to 1974. He was 53.

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Closing date for applications will be 30th June, 1977, and should be addressed to: The Acting Secretary, Tasmanian College of Advanced Education, GPO Box 1418B, Hobart, Tasmania 7001.

Information about the position and conditions of appointment are available from the Acting Secretary.

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Colleges 'should be more confident with CNAAs'

by David Walker

Colleges should be more confident when submitting degree proposals to the Council for National Academic Awards. They were in partnership with the council rather than subordinate to it at a conference on the design of course submissions was told this week.

Mr John Stoddart, chairman of one of the council's most active boards of studies in art years—business studies—said colleges often came forward hesitantly. Instead there should be free debate within the council's boards of studies on new courses and the submission for validation of existing courses.

Mr Stoddart, who is director of the recently formed Hull College of Higher Education, spoke about the recent history of business studies, a subject that has mushroomed in recent years. One index of this was that the CNAAs was shortly receiving 12 resubmissions of courses for its approval.

Business studies was unlikely to expand much more, he said, so it was a good time to take stock of degree work validated by the CNAAs and its relation with local work now under the responsibility of the Business Education Council.

Business studies in the polytechnics lacked a philosophy, Mr Stoddart argued, but this had allowed fruitful development of the subject. He hinted that the BEC might find it difficult to set out a coherent definition of the subject and then impose it on the various diplomas and certificates it validated.

This diversity accommodated business studies degrees that were heavily reliant on teaching from the social science disciplines and those, such as at Manchester and Sunderland Polytechnics, which were more practical.

Free collective bargaining will bankrupt universities—v-c

by Frances Gibb

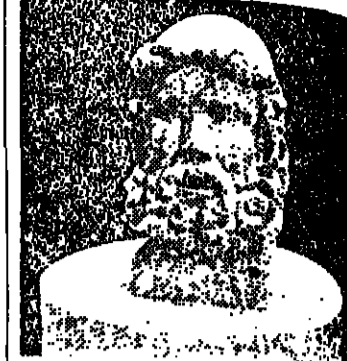
Free collective bargaining with pay rises of 25-35 per cent will lead to bankruptcy in universities, Mr Charles Carter, vice-chancellor of Lancaster University, has warned. In a financial statement to members of the university, he said that in such an event, the Government would have to abandon cash limits and offer financial help to universities. But this help would be selective. There would be little universities could do if the social contract was broken.

Mr Carter said that an overall rise of 9-10 per cent in costs would be allowed for, he said. Inflation was more than 10 per cent and the Government had indicated there was a chance that cash limits would be modified.

Mr Carter went on to say that the university's caution in the last two years now meant that it could not only avoid redundancies, but also afford a small amount of extra spending to pay for seven or eight posts.

The university was starting the year with high balances. Some of these had already been allocated, such as £60,000 to remission of fees and £90,000 to a library reserve fund. But there was about £65,000 left, he said, to be divided between the new posts.

The university also had more money for equipment next year, as its grant was rising from £270,000 to about £365,000 next year.



Classical Head by Gordon Scott. By Graham and Forest Hill Adult Education Institute was one of the exhibits at the later London Education Authority Jubilee art show at County Hall this week. The exhibition, opened by the Duke of Gloucester last week, included about 300 paintings, drawings, sculptures, etchings and lithographs from 1823-33 adult education institute.

£380,000 in student grants for Rhodesia

by Alan Wood

The Government expects to allocate £380,000 in grants this year to black students at the University of Rhodesia, Lord Gorman-Roberts, Minister of State for Foreign and Commonwealth Affairs, has said. He said that the university was in a difficult position in the way of retaining academic staff for the university.

He said the Government was ready to license students' means for staff for the university. These advertisements must first be approved by the university. The risks involved before taking employment in Rhodesia, he said, were that the university's activities were content with the arrangement.

Lord Carrington, who said the university was doing a good job, recalled that their licence to operate was revoked last year and three candidates were inserted in advertisements. "Was it necessary for the university to insert those conditions into the advertisements?"

Lord Gorman-Roberts said the position was that advertisements should carry a reference to the fact that the university was not to be drawn towards a bias towards those more interested in training than in education.

"The success of the council will, in the long term, depend on its final composition, the areas it decides to take up, and the importance attached to it by the secretary of state."

Mr Oakes, minister of state for higher education, said on Saturday that the national prosperity and the declining birthrate in the 1980s could lead to expanded opportunities in adult education.

Giving the Albert Mansbridge lecture at the opening of the new Adult Education Centre at Leeds University, he said that colleges of education which had to close might be used for other educational purposes once financial pressures eased. He would put adult and continuing education very high on the list of candidates for such facilities.

The colleges of education which remain could make an important contribution to general education and further education courses. This would be a very worthwhile expansion since a number of them are in locations where alternative facilities are either sparse or non-existent.

'Witch hunt lecturer' angered head

The head of a Swansea University department got angry with a lecturer because he followed her to see him and claimed that this was launching a witch hunt against a colleague for his political views, an industrial tribunal was told last week.

Dr Ruth Pryor had objected to her colleague's teaching because she thought he used it to expound Marxist theories, Mr David Sims, who was acting as head of the department of English at University College, Swansea, said.

But while he admitted telling her that she was being "not quite straight" in putting forward an alternative course to that of her Marxist colleague, Mr Graham Houlderness, he denied calling her "underhand, disruptive and defiant."

The tribunal in Cardiff was hearing an action for unfair dismissal brought against the college by Dr Pryor. She claimed that Mr Sims had cast a slur on her professional character and had refused to apologise. After a dispute lasting eight months, she resigned because she could not go on working with these allegations hanging over her.

Mr Sims accepted that Mr Houlderness may have used Marxist theories in his teaching but said that this was an acceptable level and not propaganda although he said he was influenced by Marxist philosophy.

He told the tribunal that Dr Pryor had issued details of her proposed course at a departmental meeting in a document which said this course is intended to offer an alternative to courses that teach Victorian literature through sociology.

This was widely interpreted as a euphemism for the teaching of Marxism through literature, he added.

Asked if his course was propaganda, Mr Houlderness replied: "No, I have to use the phrase. I would regard that as a slur upon my professional conduct."

The vice-principal of the college, Professor Clamor Williams, told the tribunal he had intervened both Mr Sims and Dr Pryor in an attempt to mediate. "Mr Sims admitted he might have spoken harshly and offensively but he said she had gone about establishing her course in the wrong way," he said.

"He was prepared to offer an apology for speaking harshly and offensively in the heat of the moment but he was not prepared to withdraw the substance of what he had said."

But Dr Pryor demanded a written apology, said Professor Williams. "Her attitude was uncooperative and uncompromising. We tried to persuade her to see this in perspective but we failed in this respect."

"Dr Pryor was the stubborn one who could not see it as a storm in a teacup. She seemed to want her colleague either to grovel or to be punished in some way."

Mr Houlderness denied that he had used his lectures to spread political propaganda although he said he was influenced by Marxist philosophy.

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Hardship fund attacked as 'grossly inadequate'

by Frances Gibb

A group of 29 universities and university colleges have called on the Government to bear full responsibility for students who have difficulty meeting new levels of tuition fees in October.

In a strongly worded statement, agreed at a special one-day conference last Friday at Bradford University, the universities attacked the increases and said money provided by the Government for dealing with cases of hardship was "grossly inadequate."

All students who have started on a university course should be able to complete it in accordance with their original reasonable expectations of the cost, they said.

"The financial consequences of changes unilaterally imposed should be borne in full directly by the Government, in addition to the University Grants Committee recurrent grant."

The group called for one level of fee for home and overseas students, particularly at postgraduate level. The Government should begin immediate discussion on its pledge that the differential would eventually be phased out.

They expressed concern about the effects of the increases on the 10,000 British undergraduate students unable to obtain a mandatory grant. Many of these would be excluded by the new fees. Some could not pay existing fees.

Income from fees for 1977-78 would be about £3.5m-£4m, an increase of ten-fold in four years. The polytechnic would need to substantially increase the amount it raised although this would mean cuts in other areas, Mr Coe said.

On hardship funds in universities, Mr R. W. Pemberton, secretary of the collegiate council, London University, said that at London there was no hardship fund administered centrally by the university. Schools would have their own procedures.

At one school this involved applications for remission of fees going through two tiers of selection.

Mr T. J. Ritter, deputy controller, home division, at the British Council, played 'devil's advocate' and outlined reasons why the Government could not provide more money for hardship funds.

Both the British Council and the Foreign and Commonwealth Office operated within strict cash limits, he said. If the British Council set aside £1.5m for hardship it could do so by closing its activities in some countries or curtailing programmes with some countries.

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Universities continued

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TUTOR COUNSELLORS have duties similar to Course Tutors in relation to the tuition of a group of students on one of the five Foundation courses. They also have counselling responsibilities for a larger group of students on both Foundation and higher level courses.

Ever forthright in his resistance and penetrating in his criticisms, Johnson was finally driven back across the Atlantic by the tax implications of the Healey budget of March, 1974. Those economists who acknowledge the importance of freedom and who remain in Britain are few. They are a diminished by his death, for there are yet no protectionist quotas on ideas and Johnson's profound concern for the British economy was not extinguished by his migration.

Graduating at the University of Toronto in 1943, and following service in the Canadian forces in Europe, Johnson first encountered the strange phenomenon, the Cambridge (England) Economics Faculty in 1945. The relationship was never harmonious and indeed, with the passage of time, it became hostile, especially during his final year in Britain. Nor was such incompatibility surprising. For Johnson was an isolated and chauvinistic individual, fraught with ideological conflict, claustrophobic in its intensity, and hostile to the professionalism of American-style empirical economics which Johnson sought to foster.

It should be noted that it is likely that existing members of the tutorial and counselling staff will be reappointed to many of the posts on continuing courses. There has been no previous recruitment, however, for the 12 courses to be presented for the first time in 1978.

(Note: Existing members of the University's part-time tutorial and counselling staff will be reappointed to many of the posts on continuing courses. There has been no previous recruitment, however, for the 12 courses to be presented for the first time in 1978.)

Obituary Great economist who scorned national chauvinism

Professor Harry Johnson, economist, died on May 8 at the age of 53 and with his passing economists mourn a great professional who worked unceasingly and with great impact in the scholarly development of his subject to which he dedicated his life.

One of the truly great internationalists in the economics profession, Johnson (a Canadian by birth) held chairs in Canada, the United States, Britain and Geneva concurrently as well as eventually and was scornful of national chauvinism both in its economic and in its political guise. Impressive physically, and an intellectual force of the highest order, Johnson was an economist evidenced by the characteristics of a John Wayne or an Orson Welles in his self-assured fight to improve the quality of his profession. His many papers and books (well in excess of 400) figured like notes on a gun as a seldom-challenged justification for his attacks on the lazy and the incompetent, the prejudiced and the pre-conditioned, as he encountered them on his ceaseless travels.

Never were these qualities more evident than in his last years in Britain as professor of economics at the London School of Economics from 1966 to 1974—the period which confirmed Britain's decline to second-class status—characterized by interventionist government policies which he abhorred, and by the strengthened dominance of ideology over scholarship.

Ever forthright in his resistance and penetrating in his criticisms, Johnson was finally driven back across the Atlantic by the tax implications of the Healey budget of March, 1974. Those economists who acknowledge the importance of freedom and who remain in Britain are few. They are a diminished by his death, for there are yet no protectionist quotas on ideas and Johnson's profound concern for the British economy was not extinguished by his migration.

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Most important of all, Johnson was a generous and kindly man, always concerned to foster talent and to assist those who wished to do so. In his seminars Johnson occasionally adopted the combative stance of the seasoned Western cowboy in outdressing and outgunning his adversary, always in discussion, in correspondence and in journal editing was he constructive and unparrying. Many scholars, myself included, owe early papers to Johnson. We shall not forget, over 400 papers, but many times more friends who will ensure his memory by their warm regard and gratitude.

Charles K. Rowley

Boycott adult advisory body, students say

by Judith Judd

The Mature Students' Union is to boycott the new Advisory Council for Adult and Continuing Education because it fears it will be toothless.

The union decided not to seek representation on the council at its conference this week. In a statement issued afterwards it expressed unease at the direction the council would follow and at the fact that students could have little effect on this from within.

There was also concern about "the lack of finance implying that the council is likely to concentrate on the deployment of existing resources rather than new initiatives."

Other reasons for the union's doubts were that students on the council would not be there in a representative capacity and that the list of bodies from which the members would be drawn showed a bias towards those more interested in training than in education.

"The success of the council will, in the long term, depend on its final composition, the areas it decides to take up, and the importance attached to it by the secretary of state."

Mr Oakes, minister of state for higher education, said on Saturday that the national prosperity and the declining birthrate in the 1980s could lead to expanded opportunities in adult education.

Giving the Albert Mansbridge lecture at the opening of the new Adult Education Centre at Leeds University, he said that colleges of education which had to close might be used for other educational purposes once financial pressures eased. He would put adult and continuing education very high on the list of candidates for such facilities.

The colleges of education which remain could make an important contribution to general education and further education courses. This would be a very worthwhile expansion since a number of them are in locations where alternative facilities are either sparse or non-existent.

Mr Oakes also suggested that greater use of educational technology was essential for the future of continuing education.

Scots petroleum centre opens



Britain is now an innovator in petroleum engineering, Dr J. Dickson Mather, Minister of State at the Department of Energy, said last Friday when he opened a new building for the department of petroleum engineering at Heriot Watt University, Edinburgh. He is pictured (top left) with Lord Home, the university's chancellor, and Professor James Brown, head of the department. The new building was funded by a £300,000 Department of Energy grant and by the oil industry.

Universities contribute £350m a year to industry—AUT

Universities contribute about £350m a year to industry, according to the Association of University Teachers. A study of 100 universities by the Department of Education and Science says this comes from inventions, the training of engineers and advice on research.

It is intended to answer criticisms that British universities are divorced from the needs of industry. Mr Laurie Sapper, general secretary of the AUT, said: "Many university circles fondly believe that the British system is patterned on what Oxford and Cambridge were like some 40 years ago. They ignore the fact that we have probably the richest variety of university institutions in the world."

In 1975-76, more than 500 university inventions were notified to the National Research Development Corporation, which handles research developments with potential uses for industry or commerce.

University inventions are among the top major licence revenue earners, it says. Two inventions alone—Cephalosporin, a drug developed by Oxford University and the Medical Research Council, and the PAN vector motor, developed at Bristol University—have brought in sales of tens of millions of pounds.

Industry did contribute towards university research, but the figure of £6.6m was small compared with the benefits it received.

There was also research in medical allied fields, such as that into the cause of cor deaths, at New



A Polish Poem of 1612 describing The Noble Craft of Ironwork

This poem was lost soon after its publication in 1612 until, in 1929, a single copy was discovered. This excited intense interest in Poland for the evidence it contains relating to the development of Polish literature, the language itself, social customs, and the region's history. It is now being published in English because it reveals so much about critical junctures in both European economic history and the development of metallurgy. This first-hand account of the bloomery hearth process, already in 1612 something of an antiquarianism in Western Europe, describes in detail the final level of technical development that this process was to attain. Published May, 1977, £9.40.

The MIT Press 126 Buckingham Palace Road London SW1W 9SD

RESEARCH

Schools can help pupils, Bristol study shows

by Peter Wilby

Despite pessimistic American findings a new Bristol University study suggests that, in certain circumstances, individual schools can make a significant contribution to their pupils' achievements.

The Bristol study, based in the school of education research unit and financed by the Carnegie Corporation, is part of a scheme covering Britain and the United States and the Irish Republic. The aim is to check out some of the conditions reached by J. S. Coleman, of Johns Hopkins University, and Christopher Jencks, of Harvard University, in their study of American schools.

Coleman and Jencks reported that very little of the variation between children's educational performances was attributable to differences between schools. The apparent contribution of extra school books, equipment and teachers was negligible. In some cases, better school facilities appeared to have negative effects.

The impact of Coleman's findings, published in 1966, was so great that education in North America has had to struggle for increased public funding ever since. In particular, the cause of positive discrimination in favour of poorer children received a serious setback.

The Bristol team, headed by Professor Alan Briner (now professor of education at the University of Hong Kong), set out to replicate Coleman's research in a more specific and limited field. Where Coleman used general tests of verbal and numerical ability, the Bristol researchers used O-level results. Because the examinations demanded specific knowledge, it was thought that these might show up differences between schools more clearly.

Over 11 O-level subjects, there was between two and a half times as much variation in results within the 44 schools in the sample as there was between them. The greatest between-school variances were in maths (42 per cent) and English language (37 per cent).

The researchers tried to explain the variations through blocks of characteristics—teacher characteristics (such as age, sex, experience, qualifications and teaching styles), school characteristics (size, type, sex, social class composition, pupil-teacher ratio, etc.), parental background (father's occupation, parents' education, help given with school work), individual pupil characteristics (aspirations, self assessment of brightness, time spent on study), and the pupils' perceptions of their schools (strictness, emphasis on behaviour and academic success).

These predictors accounted for nearly all the variation between the schools' results, though they generally accounted for less than a third of the variation within schools.

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Females hold clue to fig wasp behaviour

by Clive Cookson
science correspondent

Two types of fig wasp fly together amongst the wild figs of Brazil. In one the males share the females peacefully. In the other they fight lethally between themselves: millions of males die in combat every time the males die.

Imperial College entomologist Dr W. A. Hamilton believes this surprising difference in aggressive behaviour can be explained by the different egg-laying habits of the females.

In the first group of species, the "pollinator wasps", each female lays all its eggs in one fig. When the broods emerge inside the fruit the males are largely competing with brothers to mate with sisters, and they do not fight.

In the other group, the "parasitic" species, females lay eggs

singly or in small batches in different figs. The males are less related to others within the fruit, and they fight viciously for the females.

Dr Hamilton (who accepts the label "sociobiologist") began studying Brazilian fig wasps when he was working at the University of Sao Paulo in 1975. "It is an amazing and undiscovered world, quite isolated from the rest of biology", he says. "One can get wrapped up in figs for the rest of one's life."

There are about 600 wild fig species in the world, and each one supports an average of 10 different species of wasps. Dr Hamilton estimates, making a total of perhaps 6,000 sorts of wasp for entomologists to sort out.

These creatures, no more than a couple of millimetres long, are categorized as wasps for want of a

better name, but are more closely related to certain parasites of caterpillars. They too are towards scientific stardom when Hamilton's work was exhibited at Royal Society since last week.

He interprets the contrast in aggression between fig wasps in terms of genetic kinships. It is particularly clear illustration of a recurrent problem in biology: do some animals devote so much more energy than others to competition within the species?

Fig wasps also provide the most startling examples of dimorphism discovered in any animal. Brothers are so different in parasitic species that taxonomists would place them in different genera if they did not know they had the same parents. They differ both in aggressiveness and in biology—notably, some have legs and others do not.

Skull 'may be first European'

by Frances Gibb

Scientists at Edinburgh University are trying to establish whether a human skull found 15 years ago in a Greek cave could be that of the first-known European man.

The skull, found in Petralona Cave south of Salonika, was originally thought to be Neanderthal, a race which lived between 11,000 and 35,000 years ago.

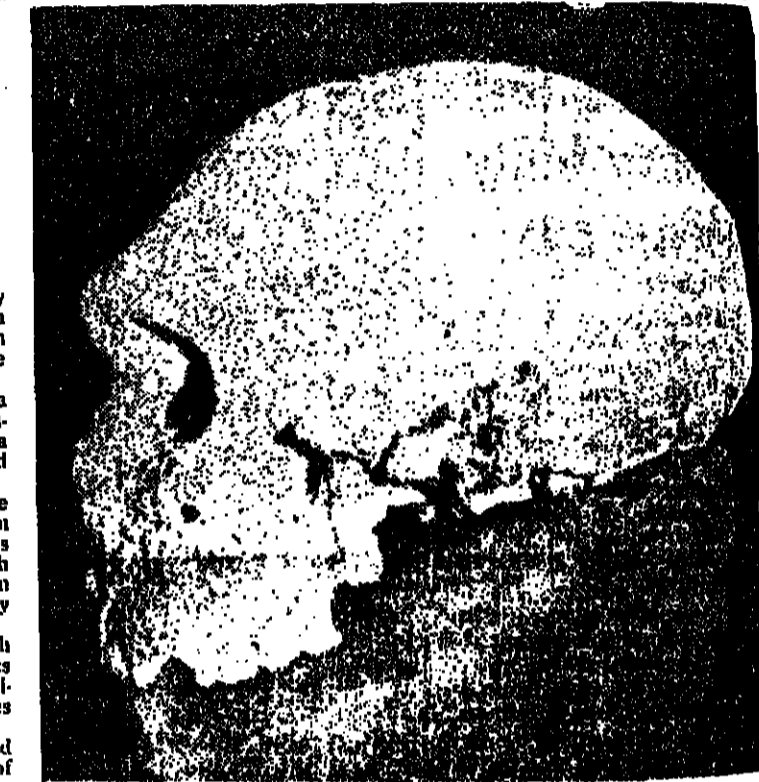
Dr Aris Prokopiou, head of the Greek Anthropological Association and the cave's excavator, believes the skull is much older, which would prove that south-eastern Europe was occupied by man very early.

Together with the Scottish National Museum, the geophysics and physics departments of the university are trying to supply dates for the site.

One method, which was pioneered by Professor K. M. Creer, head of the geophysics department, and Professor J. S. Koppa, a visiting fellow in the department from Long Island University, New York, involves the use of paleomagnetism.

The magnetic history of the sediments is reconstructed using samples of cave earth. Since the earth's magnetic field changes with time and since the field reversed itself at known intervals in the past, it is often possible to date not only specific levels but also to establish a scale record of time through the entire deposit.

So far, Mr Stavros Papanarinos, a research student in the geophysics department, has discovered that the Petralona Cave material is more than 650,000 years



Greek skull: found in cave near Salonika

old and is now trying to establish the magnetic stratigraphy.

At the same time Dr Robert Gallaway, of the physics department, is carrying out measurements on stable magnetic material from the deposit to help establish a date for these layers using the isotopic decay rates of uranium/thorium.

The National Museum of Antiquities of Scotland is engaged in other dating techniques, and the results of all methods will be compared. A portion of the stalactite which is said to have carried the skull has been independently dated in Japan as 250,000 years old using electron spin resonance. Another portion

has been dated in Canada at 200,000 years old by the uranium disequilibrium series.

The cave was discovered in 1958 when Christos Saraniadis, a student who had heard water running underground, Saraniadis removed and fell into the cave, where he found piles of animal bones and an entire human skeleton fossilized.

Excavation did not begin until 1968, by which time the skeleton was lost, but recently another skeleton has been discovered embedded in calcite.

Bath examines computer's use

A Bath University team is to examine how a national computer record of library books and periodicals can be used locally by university and public libraries.

With an £88,000 grant from the British Library, the team, under the direction of Mr John Lambie, the university librarian, will look at the central computer service being set up by the British Library and see what uses can be made of it. The work may eventually lead to the setting up of a world-wide network of computerized catalogues.

Bath library has already done much work with the university's computer unit on the use of computers in library cataloguing. Its own library is already fully computerized.

One advantage of such cataloguing is the saving on salaries: 50 per cent at Bath instead of the normal 65 per cent.

The team also hopes to do further work on finding books through a keyword index system.

Multinationals studied at UEA

A team led by Professor Alice Teichova, of the University of East Anglia, is shortly to start a three-year project in the economic history of central Europe. By means of a £25,000 grant from the Social Science Research Council, it will trace the growth of multinational companies in the area after the First World War.

The object of study will be firms with their head offices in Britain, France or Germany which invested heavily in Austria, Czechoslovakia and Hungary. Immediately after the First World War, the governments of these countries actively sought foreign investment as part of their plans to make these new states viable.

Exeter physicist aims to help speech defects

Sufferers from speech defects could benefit from a £13,000 research project just started at Exeter University by Dr F. C. Flack. It is a department of physics which is intended to improve the quality of measurements of air flow through the nose which are of use to speech therapists in assessing patients' progress.

The research will study the usefulness of an instrument which measures nasal anemometer which measures the escape of air from the nose. Such information is vital in assessing "hypernasal" speakers who are unable to close off the nasal passages.

In his project Dr Flack will attempt to standardize measurements from the anemometer and discover how useful it is to speech therapists in assessing patients' progress. The work will be financed by South Western Regional Health Authority.

On the other hand

Would ewe do it?

Bristol University's information officer was quite brazen about it. "We are going to hold a sheep grazing ceremony" he said, and he just was not believed.

One of those inspired moments Hamilton's work was exhibited at Royal Society since last week. He interprets the contrast in aggression between fig wasps in terms of genetic kinships. It is particularly clear illustration of a recurrent problem in biology: do some animals devote so much more energy than others to competition within the species?

As commuters of the downs—a charming expanse of parkland by the Clifton suspension bridge more dogs and sheep are used for the exercise of the right to free speech than for sheep fattening—the university has not unleashed the slightest hint of mutton there since 1924.

However, the general purposes committee, ever sticklers for tradition, has recommended that the university council damps a lamb or two as far away from the golfers and ice cream vendors as possible. "It will be a token grazing really," said the information officer, Mr Don Carleton, by way of mitigation, "but there will be a valid academic by-product". A member of the botany department will, it seems, be using this heaven-sent opportunity to examine what happens to a sheep's digestion when surrounded by people flying kites, or something along those lines.

Another by-product is that Bristol has become a university where puns may safely graze: clearly presenting themselves for the arrival of the *Daily Mirror* at the grazing ceremony, academics and students alike are nowadays full of quips like: "We may be woolly minded but universities wool is clearly superior." "There is a lot of it about," said Mr Carleton. "You know, jokes about sheepishness, that sort of thing. It is a surprising ramification."

Angus on the brain

In the seemingly never-ending autobiography of Scottish scribbler Angus MacVicar we learn that Glasgow University almost ended his career. John, by contrast, failed his 11-plus, left school at 15 and gained his GCEs while working as a clerk at the London Electricity Board. All his academic qualifications were acquired part time but he gained his professorship only three years after his brother.

The book, *Heather in My Ears*—which eccentric affliction he at no point explains—follows *Salt in My Porridge* and *Rock in My Scotch* (Were this not such a tasteful and cultured column I would start a competition for the most likely predicament in which we might find Angus MacVicar for his inevitable fourth volume. I strongly favour *100 Per Cent Parquat in My Horlicks*).

He goes on: "(Some students) talk interminably about pop art and politics, canoodles in the back seats of the snails and experiment with puns and 'po'. But at the end of the first year they fall their exams. Grants and bursaries are taken away from them. They are miserable and lonely and hate themselves. I know. In spite of my advantages I went through it."

So basically, *Heather in My Ears* (subtitled *More Confessions of a Minister's Son*) tells how Angus MacVicar leaves the security of the childhood manse for university, is tempted by the demon chocolate digestive, faces ruin, but goes on (after surviving from a unique form of amoebic dysentery for which his own name is apparently synonymously locally: viz—"a touch of the Angus MacVicar") to write a Scottish family television series called *The Glens* and lead an upright life never passing a royal lifeboat collection box without making some donation.

Unfortunately this will not be possible without "application to the editorial collective". But this does not matter since to convey your every fourth word and you do not have to apply to anyone to do that.

"We argue that... non-reproductive transformations... delimited this site in its negativity... pre-

Fun for graduates

"Ladies and gentlemen. Welcome to the Interval at Chiswick. A clearing-broking young man with a beard had leapt to his feet with the sort of dithering enthusiasm normally reserved for the followers of Lord Baden Powell.

The IVC (annual fee: £11) is a social club with 10,000 members and 40 branches all over Britain. It aims to help graduates and others of the same age to overcome social isolation and find intellectual stimulus once they have left the status quo of their old school. London intellectuals are attracted by volunteers out of a dispiriting Covent Garden warehouse, was opened recently by the IVC president, Lord Briggs, himself a graduate who overcame social isolation and found intellectual stimulus by becoming vice-chancellor of Sussex University.

If the attendance at the opening night is anything to go by, then the club's members are, by and large, those graduates who have decided that the status quo is where they want their will built. Tariq Ali, for instance, is probably not a member.

The club's handbook is very like that of a students' union except that the faces of "this year's exec" are disconcertingly older and the list of activities makes such consoling as well as still managing as "coffee and cognac tasting in Hammersmith".

The exhibition upstairs showed the club's history from its 1947 beginnings. On the walls were fading pictures of house parties of that era in which people dressed as rabbits and sunbats and still managed to look as if they had a collar and tie on. Another sepiu swop caught love's young dream on heels coyly pecking the sort of man who probably plays tennis well.

It is comforting to think that, despite all the upheavals in the world since the club's birth, its membership is pretty unchanging.

All together now

"The editorial collective (No, come back. This will be interesting) would like to see this new journal contributing to the advance of political and theoretical struggle in the areas of ideology and consciousness." Thus, appetizingly, begins the first issue of a magazine of the same name (*Ideology and Consciousness*, Price £1.10 including postage from 1 Woburn Mansions, Torrington Place, London WC1).

For those who have never read anything written by a collective (we will exclude Shakespeare for the moment over the membership of whom there appears to be some debate) I would like to quote a whole slab from this "Marxist journal in the theory and practice of psychology, psychoanalysis, linguistics, and semiotics in the school, the media and other areas".

Unfortunately this will not be possible without "application to the editorial collective". But this does not matter since to convey your every fourth word and you do not have to apply to anyone to do that.

"We argue that... non-reproductive transformations... delimited this site in its negativity... pre-

Predictions can be merely illusions



Martin Trow

It is in the nature of human beings to want to know the future, and as far as possible to control it. We do not like the unpredictable—it makes us nervous and anxious. We want to know what the future may bring so that we may prepare ourselves for it, both to take advantage of the opportunities it may offer, and to guard ourselves against its blows.

When we speak of forecasting and planning in the realm of higher education the wish to predict and control goes beyond our shared human desire for the unexpected. The political and economic motives for wanting to know the size and shape of higher education, 10, 20, and even 30 years in the future are very strong.

We want to know how many people in some future year will want to enrol in college or university and we want to know what the economy will be like, and, more specifically, what the demand from the economy will be for the graduates of our institutions of higher education. These two forces, the "push" of demand for places in higher education and the "pull" of demand for its products, are the basic forces shaping the size of systems of post secondary education in most modern societies.

We want to know how large or strong those forces are going to be as far ahead as we can because we want to meet those demands in an orderly way; we want to have enough space for classrooms, libraries and workshops, but we do not want space going to waste, or institutions closing down, or academic personnel under-used or unemployed. We want to know our future rate of growth since that so heavily determines in so many ways the nature of postgraduate education—that is, the preparation of the next generation of college and university teachers—the motives for institutions and for governments to predict the future are so strong.

For postgraduate education—that is, the preparation of the next generation of college and university teachers—the motives for institutions and for governments to predict the future are so strong. The trouble is that our predictions either of student demand or the demand for graduates from the economy are not very good.

The *THEs* published a fascinating chart a few weeks ago showing the changing predictions of enrolments in British higher education in 1980 as made by various official bodies made by the Robbins report and the latest *DES* forecasts. The Association of University Teachers' report (*THEs*, April, 22) recognises the difficulties of forecasting as it goes about making the *DES* forecasts for the next decade.

Predictions in the United States have been no better. In 1970 the US Office of Education was predicting a degree-credit enrolment for 1979 of some 10.6 million students. In 1974, just four years later, the same federal agency was predicting

8.6 million students for the same year—a reduction of 2 million within four years. Both predictions are likely to be wrong. Enrolment in the fall of 1976 was 11.2 million. But predictions can be wrong with in very short times. The Office of Education's National Center for Educational Statistics (NCES) as recently as September, 1976, had projected the fall enrolment for this year of 11.7 million. The actual enrolment was half a million less. Apparently the statisticians did not anticipate the effect of the expiration of educational benefits for over three million Vietnam veterans, and this resulted in a decline of nearly 400,000 students enrolled on Oct. 1 to about 700,000 in 1976. We may not be able to predict very well or very far into the future, but we are much better at explaining why our predictions were not very good.

They are not very good because there are too many variables involved about which we have little knowledge and less control. We know the numbers in the traditional college—versity age cohorts for the next two decades since most of them have been born and it is thus a demographic fact on which most of our enrolment projections are based.

But those figures are less and less relevant, as increasing proportions of students in higher education come from older age groups. We can predict that demand for "continuing education" from older students may grow. That itself is a function of government and university policy, of the state of the economy over the next decades, of unemployment levels, of changes in the occupational structure arising from technological change, and of such cultural changes as the broad movement for the equality of women.

The forces that affect enrolment—economic, political, technological, cultural and demographic—are not themselves single forces, each simply point to a large number of factors which have interactive as well as independent effects. Moreover, they have quite different effects on different kinds of students and institutions.

I attended an educational conference in London a few years ago and heard a minister of state in the *DES* make a spirited defence of higher education and its role in advance to higher educational planning generally. Someone in the audience rather tentatively suggested that even apart from the enormous changes in the professions and overall involvement, the department had not been very successful in the past in predicting the numbers of doctors or teachers needed over the past few decades.

"Yes, that is true," said the minister, but (pounding a fist on a palm) next time we must get our figures right." In the face of such consistent and widespread failure to "get our figures right", this grim determination to do so next time is very nearly an operational definition of fanaticism. I myself asked the minister how low he could have predicted conditions in Britain in 1976 if he had been minister in 1965 or 1956. He just smiled and went on to the next question.

But my question is not meant to score a debating point. For if we cannot predict well very far ahead how does that affect what we are pleased to call "planning" for higher education. And how does long-term "planning" that is based (necessarily, I believe) on bad figures and wrong forecasts; affect the institutions and the system of higher education?

The answers to that question will be somewhat different for Britain and the United States. Nevertheless, for both countries, I believe a reconsideration of "planning" in higher education must start from a recognition that our predictions and projections both of the demand for places and the demand for graduates are likely to be wrong. They are, in fact, not forecasts at all, but illusions.

Trainee teachers look outside

More than 600 north-east teacher-training students have accepted an invitation from Newcastle Polytechnic to consider alternative careers to teaching. They will attend a convention organized by the polytechnic next Friday when 54 local employers will advise them on job opportunities.

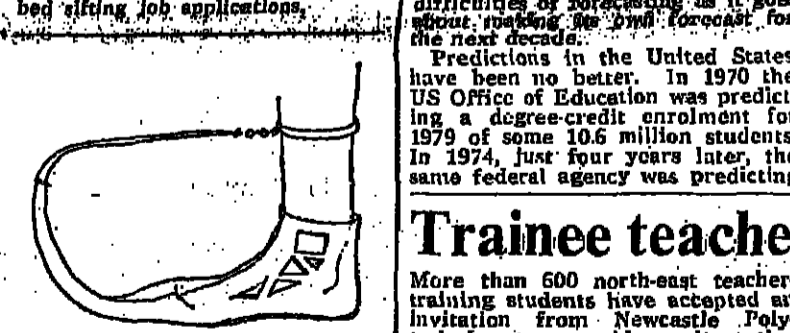
The polytechnic's Appointments and Careers Advisory Service has mounted the convention in response to the difficulties confronting teachers looking for their first job. Mr Paul Chubb, the assistant appointments officer, said: "We hope to impress upon the students that in job terms their qualifications should be viewed along with any others as a licence to hunt for a post in the labour market where employers say they want qualified people."

The convention will underline the fact that these are all young people who have earned their higher education qualification. I hope that employers who receive applications from them during the coming months will view them as highly suitable employees rather than unfairly labelling them as failures."

Last time (*THEs*, May 6) I carried a picture of a thirteenth century poultice upside down to check if anyone reads this column or not. This week I carry a correction (above an excellent letter that I do have a reader. She is Mrs M. J. Ninn of Chesham who is clearly something of a wit because all the relevant words of complaint in her letter were themselves upside down. In future issues I hope to carry a photograph of Mrs Ninn.



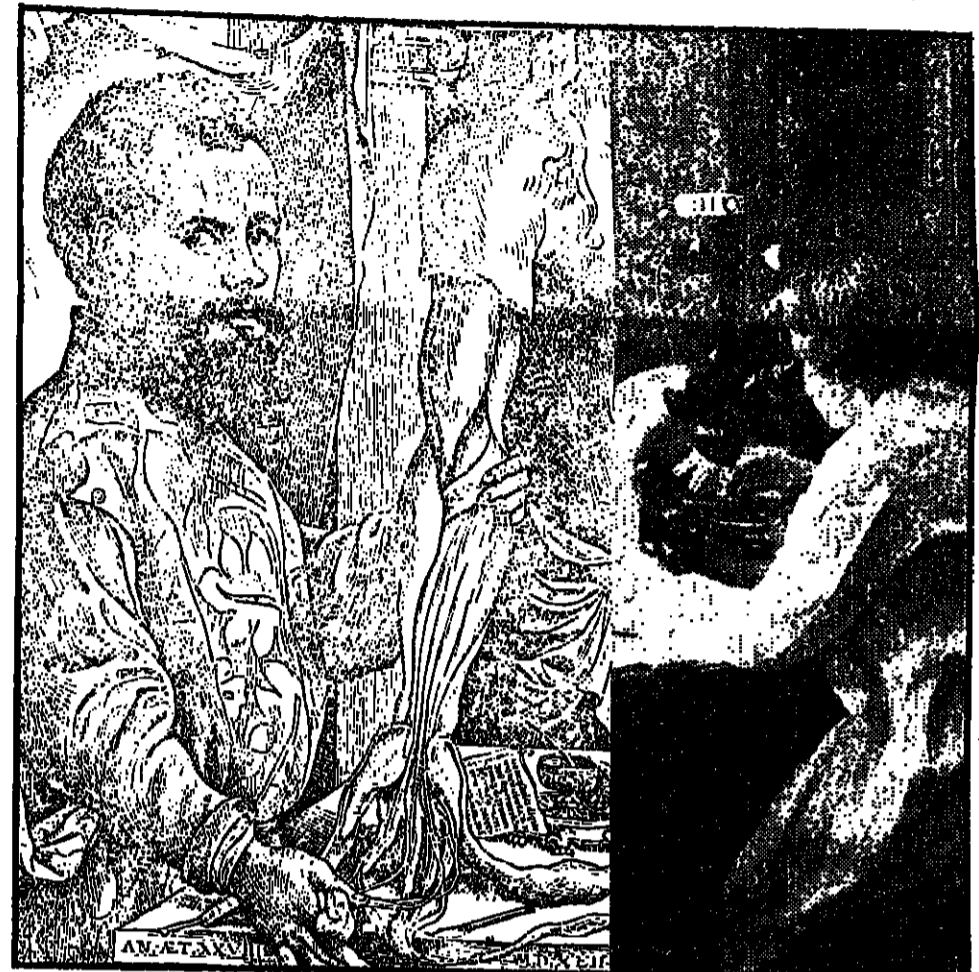
A geriatric graduate: one of the many photographs in a new book, *Interviews with Master American Photographers* (Paddington Press, £5.95) by James Danziger and Barnaby Conrad III.



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Clinical level

The unexpected and possibly serious consequences for medical schools of the new overtime system won by hospital doctors last year are among aspects of pay and conditions that Clive Cookson looks at in the second of his series on medical education



last completed survey was carried out by the Committee of Vice-Chancellors and Principals five years ago and showed a fall in the percentage of medically qualified applicants for vacant pre-clinical posts from 44 in 1967-68 to 31 in 1970-71. The percentage of medically qualified staff employed in 1970 were 1967 figures in brackets: anatomy 71.5 (78.3), physiology 47.5 (57.9), pharmacology 30.9 (41.7), biochemistry 5.3 (7.3).

The CVCP is currently conducting another survey, and everyone expects it to show a spectacular further fall in medically qualified numbers. It has become almost impossible to find a young doctor considering a career in the basic medical sciences, and the percentages of medically qualified staff that desirable three years ago are: anatomy 35.9, pharmacology 50, biochemistry 25—seem quite out of reach.

But do anatomy, physiology and biochemistry need to be taught by doctors? Professor Quilliam and most of his colleagues argue passionately that they do, both for educational reasons—the only medical doctors can illustrate the real relevance of the core subjects to the clinical field—and because practical exercises, with drugs for instance, using students as subjects, must be medically supervised. For example, mucus vomitulation tests, for example, must be carried out on humans to be meaningful. The anatomy being studied is human and not that of lower forms.

Others, including some deans as well as non-medical scientists, are prepared to let the medical contingent disappear from pre-clinical departments. The basic medical sciences would be taught by non-medics, with the help of doctors brought in from the clinical departments.

It can be argued that the idea of a "pre-clinical department" is already out-fashioned and will soon be obsolete, with the continuing trend towards integrated medical curricula in which the distinction between pre-clinical and clinical studies is blurred or non-existent.

In the long run this is probably correct, but it is notable that at present all three new medical schools (Nottingham, Southampton and Leicester) regard the difficulty of recruiting medically qualified staff to teach basic medical sciences as a serious problem, despite their modern courses (and modern laboratories to attract researchers). The new schools are clearly aware that their students and too busy to play a major part in pre-clinical teaching, and the present financial restraints do not allow universities to recruit more clinical staff.

What is to be done then? The solution favoured by Professor Quilliam and his committee is to move all medically qualified pre-clinical staff to clinical pay scales. This could be done by creating departments of "medical anatomy, medical physiology and medical physics" in the clinical medical schools.

The idea has so far been rejected by the UGC, partly because of the financial implications of giving more than a thousand pre-clinical teachers a hefty pay rise, and partly because "salary differentials of that degree between medically and non-medically qualified staff in the same departments, doing closely similar work and living the same sort of academic life, is undesirable."

Professor Peter Fentem, professor of physiology at Nottingham, agrees that it would be desirable to pay someone more simply because he has a medical degree than someone with no clinical commitments. He suggests that two clinical sessions a week should be awarded for basic medical science teachers within their own field of interest (after a little retraining if necessary). Clinical salaries would then be justified.

"This contrasts this with damaging 'ad hoc' solutions that have been proposed—basic medical science teachers should undertake general practice, work as police surgeons, and other routine clinical duties in fields quite unrelated to their teaching or research interests."

"Professor Fentem believes his idea could save the day in pre-clinical departments though it would be too late for many that have been fundamentally changed by too great a loss of medically qualified staff. He emphasizes the value to medical education of departments with a mixture of scientists committed to pure research and medics looking at the applied aspects of the medical sciences. He says that if all the medics end up in clinical departments, with the non-medically qualified scientists herded together in basic medical science enclaves.

There are signs that the shortage of medically qualified academics is beginning to spread from the pre-clinical areas of biology, pathology and radiology. "It's a terrible thing to say, but I'm quite glad about that," admitted one pre-clinical professor, "it might force the universities to think more seriously about solving our problems."

In fact the universities may be on the way to solving the problem, though not in the way he had in mind. If they are training too many doctors for the long term future (see last week's article) some of the surplus medics are bound to turn to teaching and research in the basic medical sciences rather than face unemployment or an uncertain future in an overstuffed NHS.

will medical schools continue to be able to attract enough good teachers and researchers now that doctors can earn much more working for the health service? This question and its implications for academic standards are becoming a major worry for medical education.

Indeed the Committee of Vice-Chancellors and Principals warned recently: "If the terms and conditions of service in the NHS continue to be more favourable than for clinical academic staff, there is a serious threat in the long term to the very existence of medical education in the universities."

Pre-clinical departments, which teach the scientific basis of the medical curriculum, have been virtually unable to recruit medically qualified staff for several years. Their plight is discussed separately below.

On the clinical side, the alarm was raised a year ago when a new contract for junior hospital doctors introduced overtime payments according to the number of "units of medical time (UMTs)" worked. This created a difference in earnings between clinical lecturers and their NHS counterparts (mostly senior registrars and registrars) where there had been broad comparability of salaries.

The universities were particularly upset because the deal was thrashed out between the Department of Health, Social Security and the doctors' representatives without consulting medical schools.

"We recognize the complexity of the pressures leading to the revised NHS arrangements and that university staff are small in number relative to the NHS. Nevertheless, we are concerned that the implications for the universities were not fully considered. The NHS policy was being framed; this would have avoided the prolonged series of difficult discussions which ensued on the question of junior clinical academic staff," said the CVCP.

These "difficult discussions" involved representatives from the CVCP, DHSS, University Grants Committee, Department of Education and Science, Association of University Teachers and British Medical Association, among others. Their problem was how to pay junior academic staff for UMTs or something like them, so as to safeguard existing staff, without imposing too heavy a financial burden on medical schools or seriously violating the sacred university principle that the academic working week is not measured in terms of hours spent in the laboratory or in the classroom.

The result of the negotiations was a messy and confusing agreement, containing a horrible gap in the logic as one participant put it. From October, 1976, universities were to pay clinical lecturers for UMTs calculated from the time devoted to patient care, without quantifying the hours spent on research and teaching. Practical arrangements were to be worked out locally, while some-medical schools are still applying crude interim schemes while local squabbles continue.

Until 1974 universities were in close touch with the Department through their teaching hospitals' boards of governors. Those were scrapped, leaving the British provincial medical schools without a direct link to the DHSS (though the 12 London schools can still communicate directly via the London Coordinating Committee, and special arrangements exist for the four Scottish universities with the Scottish School and Queen's University, Belfast).

At the regional level, university coordinating committees do exist, and a recent DHSS circular told health authorities to make more use of them; they are to be consulted as an integral part of the process of allocating funds to teaching hospitals. This may help to make authority members more aware of the needs of medical research and training—it is often said that they are too preoccupied with improving local services to patients, at the expense of their own research and teaching interests.

But there remains a feeling that a national coordinating committee is needed. For example Dr Robert Lowe, dean of St George's Hospital Medical School, has suggested a small body with top-level representation from the DHSS, CVCP, UGC and possibly DES.

Not everyone likes the idea however. Some members of provincial hospital hospitals suspect the proposed committee might just be a vehicle for their hard-pressed colleagues in London to oppose the redistribution of NHS resources to poorer provincial regions.

The DHSS maintains that its policy-making machinery already takes full account of regional differences. There's no lack of information about what people want," said one official. "The difficulty is that sooner or later we have to say: 'We know what you want but you cannot have it because something else has higher priority.'"

It is inevitable that not everything the Department does will please medical schools, because ultimately the responsibility of the secretary of state is to the provision of service rather than to education."

Preclinical

The virtual impossibility of recruiting qualified staff to pre-clinical departments was described as a crisis as long ago as 1971. "The pre-clinical scene is crumbling" a physiology professor said in 1974. It has continued to crumble away since then, and the loss of medically qualified teachers may have gone so far that most pre-clinical departments (or basic medical science departments, to give them their more modern name) have suffered a fundamental and irreversible change of character. Not everyone would accept, however, that this is necessarily a disaster.

The main reason is simply that pre-clinical teaching carries a huge financial penalty. The doctor in a clinical department will hold an honorary NHS contract and will be paid at a rate comparable to his colleagues employed directly by the health service—though, as explained above, on purely financial grounds he might do better off outside academic medicine.

Most people in medical schools feel that the lack of DHSS consultation over pay and conditions is an example of the more general loss of interest in the medical schools. Ignorance of the situation is frequently attributed to the 1974 reorganization, which divided the health service into three tiers (regions, areas and districts) with the DHSS on top.

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Upcoming events

Information Group conference, will be held from May 27-28 at the Polytechnic of North London, School of Lib. NI 3PN. The conference will include: librarians, information workers, political scientists and political activists to explore the relationship between information transfer, public policy and political action. Further details from A. Hennessy, the Polytechnic of North London.

"Education in Ageing and Geriatric Medicine", a joint meeting organized by the Association for the Study of Medical Education and the Society of Geriatrics will be held on May 27 at the Birmingham Medical Institute. Further details from ASME, 1206 Perth Road, Dundee DD1 4EA.

The National Book League will be holding a Jern Cocke exhibition from May 27 to June 24 at Albemarle House, London, W1. It will include drawings, paintings, sculpture, film, books, documents, which will evoke the diverse talents of Jean Cocke.

"The Construction, Commissioning and Operation of Advanced Gas-Cooled Reactors", a two-day conference, will be held on May 26 and 27 at the Royal College of Surgeons in England, 11, Lincoln's Inn Fields, London WC2A 3JN.

"Chlorococcolysis: Can we Afford to Ignore it?" The Walker Prize lecture by Professor K. D. Bagshaw will be delivered on May 17 in the Royal College of Surgeons in England, 11, Lincoln's Inn Fields, London WC2A 3JN.

"Information, Public Policy and Political Action", an ASLIB Social Sciences

Science and the Rise of Technology in the West. Lecture by Prof. J. H. D. Jones, 10.30. The Age of Revolutions: Wordsworth and the Romantic Movement. Lecture by Prof. J. H. D. Jones, 10.30. The Age of Revolutions: Wordsworth and the Romantic Movement. Lecture by Prof. J. H. D. Jones, 10.30.

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Appointments

Mr Amartya Kumar Sen, professor of economics, London School of Economics, has been appointed to a chair of economics at Oxford University from October 1, 1977.

Mr Ray Harris, professor of the Romance languages, University of Oxford, has been appointed to a chair of general linguistics at Oxford University from January 1, 1978.

Mr Martin P. Smith, reader in the department of classics, University College, Bangor, has been granted a personal chair.

Dr Peter Foulkes, reader in German at Stirling University, has been appointed professor of German and head of the department of German at University College, Cardiff. Dr Foulkes will succeed Professor E. P. Williams who will retire in September, 1977.

Mr Francis Louis Mastaglia has been appointed to the chair of experimental neurology at Newcastle University.

Grants

Electronic and Electrical Engineering—Professor W. F. Lovinger, £6,545 from the SRC, for work on systems engineering. Mr W. Madley, Professor V. S. Griffiths and Dr J. C. Pals, £22,590 from the Ministry of Defence, for work on mechanical protection of electronic equipment; Dr W. Matley, Dr R. E. H. Bywater and Dr S. E. Williamson, £4,800 from the Ministry of Defence, for work on the design, etc. of non-recursive digital filter; Mr W. Matley, £7,823 from the Ministry of Defence, for work on the stability of broadcast equipment; £5,828 from the Ministry of Defence for work on radio

Open University programmes May 21 to May 27

- 9.40 The Age of Revolutions: Wordsworth and the Romantic Movement. Lecture by Prof. J. H. D. Jones, 10.30. The Age of Revolutions: Wordsworth and the Romantic Movement. Lecture by Prof. J. H. D. Jones, 10.30. The Age of Revolutions: Wordsworth and the Romantic Movement. Lecture by Prof. J. H. D. Jones, 10.30.

COURSES

STUDY AT HOME. For a London University External Degree. Volley Hall, the only correspondence university centre for London University External Degrees, provides individual instruction by highly qualified lecturers. Volley Hall has a remarkable record of success - a pass rate of over 90% in all subjects. Includes a high proportion of the 1st and upper 2nd class honours awarded.

Oxford Reader: F. L. Jones (English Literature), J. H. D. Jones (English Literature), J. H. D. Jones (English Literature).

Birmingham Readers: Dr T. S. M. Maclean (electromagnetism); Dr E. T. Springer (climatology); Dr J. W. Carter (chemical engineering); Dr J. P. Simons (photobiology); Dr M. P. Osborne (microbiology); Dr H. J. Wilson (dental materials); Dr N. Crawford (biochemistry).

Newcastle Lecturers: Dr Francis Louis Mastaglia (oral anatomy); Dr W. M. Edgar (oral physiology); Dr P. T. Emmerston (biochemistry); Dr N. Shaw (microbiological chemistry); Dr R. Lewis (physics); Dr D. W. Packham (psychology); Mr B. A. Lovell (music); Mr W. Pace (town and country planning); Mr H. B. Miles (film); Mr J. C. Tyson (education); Mr R. F. Moynagh (soil science); Mr D. J. Greig (agricultural engineering).

telemetry link for Star; Dr K. G. Stephens, £1,657 from the SRC for work on the optical spectra of stars; Mr Q. O. Davis, £3,250 from the Ministry of Defence, for further work on fuel particle size distribution analyzer. Mechanical Engineering Professor A. M. Allison, £11,282 from the Ministry of Defence, for work on stress analysis of efflux deflector.

Physics—Dr S. J. Harris, £4,112 from the SRC, for work on thin specimens of semi-conductors; Professor D. F. Jackson, £3,600 from the SRC, for work on spin-orbit effects in knock-out reactions; Dr G. M. Cohen, £5,303 from the Cancer Research Campaign, for work on uptake, binding and metabolism of a variety of cytotoxic drugs; V. Marks, £13,497 from the Cancer Research Campaign, for work on cyto-

toxic drugs in treatment of malignant diseases; Dr J. W. Bridges, £12,559 from the SRC, for work on the investigation of mechanism of drug metabolism enzyme induction. Microbiology—Dr R. M. Jackson, £2,390 from the NERC, for work on ecology of growing wound colonization. Economics—Professor C. Robinson, £650 from the SRC, for work on North Sea policy study, with special reference to a workshop in energy economics run in conjunction with the Colwyn Institute of Energy Economics.

Noticeboard is compiled by Patricia Santinelli and Pauline Downs

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Wednesday May 10. 8.40 The Age of Revolutions: Wordsworth and the Romantic Movement. Lecture by Prof. J. H. D. Jones, 10.30. The Age of Revolutions: Wordsworth and the Romantic Movement. Lecture by Prof. J. H. D. Jones, 10.30.



The Times Higher Education Supplement (London) Room 541 National Press Building Washington DC Tel: (202) 838 6766

New study charter for campus handicapped

After years of debate a comprehensive regulation banning discrimination against millions of handicapped people in the United States has been signed by Mr Joseph Califano, Secretary of Health, Education and Welfare. It will become law at the end of this month.

Groups representing the handicapped were triumphant at their victory in getting a long-delayed section of the 1973 Rehabilitation Act finally implemented. During the past month they have held a series of demonstrations and sit-ins to protest against the delay.

Universities were not so enthusiastic: it has been estimated that it will cost them around \$2,400m to make all the architectural modifications needed to ensure proper access to the physically handicapped.

The section of the Act affects all institutions that receive federal government funds, including schools, colleges and health centres, and deals with the way they employ, enrol and provide services to the handicapped.

The most controversial point is the definition of alcoholics and drug addicts as "handicapped". Dr David Madhwa, the former HEW Secretary in the Ford Administration, refused to sign the regulation because of this. Some universities were afraid they would be forced to hire "queros of junkies and drunks".

Mr Griffin Bell, the Attorney General, has now made it clear that it will be illegal for universities and colleges to discriminate against these people. But in a 17-page opinion he added:

"Our conclusion . . . does not mean that such a person must be hired or permitted to participate in a federally assisted programme if the manifestations of his condition prevent him from effectively performing the job in question or from participating adequately in the programme."

Long-distance medical link

A long-distance hook-up between the medical school of Monash University of New South Wales and four hospitals in remote parts of the province has just started by means of a communications satellite.

The Telemedicine Project, as it is known, will last 12 weeks, and will allow doctors in the four hospitals to follow in-service courses at the university.

There will be two-way audio-visual communication so that participants at all the sites will be able to talk to each other. Between three and five hours' broadcasting time will be available every other day.

Stanford raises record sum

Stanford University has completed the largest successful fundraising campaign of any American university. In five years it has raised more than \$300m.

The campaign began in 1972, and managed to stay on schedule. By last week more than 54,000 donors had made pledges or gifts, including one anonymous donation of \$15m. The money has been used to increase the number of endowed chairs from 49 to 125, and to provide \$55m for student aid and more than \$55m for buildings. A new main library is now being built and will also receive \$16m in support.

Individuals contributed \$78m, foundations \$91m and business and industry \$35m. Stanford's campaign is one of the most ambitious ever launched. The largest is the drive for \$370m by Yale University, begun in 1974. This, however, is well behind target, having only received \$180m so far.

In the last of three articles on private colleges, our correspondent looks at their future prospects

Survival—of the fittest

America's elite private universities are so good—the best in the world according to Professor J. K. Galbraith—that it is assumed they will survive. It is assumed they will survive bright and secure future. The assumption is probably correct; but it is one that invites a complacency that would horrify the universities themselves.

Private education throughout America is under considerable financial pressure. The fact that the top universities have closed in recent years is a tribute to their very considerable efforts to improve their management, cut out waste, build up their endowments and tap new sources of income. It does not mean the threat of bankruptcy is unreal or that inflation has ceased to gnaw at the foundations of the private system.

Even the great private institutions cannot ignore a disturbing trend: the private sector has a steadily shrinking share of the market. In 1950 it accounted for about 50 per cent of all students receiving higher education. Now it accounts for only 20 per cent.

Moreover, as the decline in the birth rate begins to be felt at college level, the competition for students becomes intense. It is very difficult for political reasons, to allow a state university—a source of strength and pride to a state and its legislators—to shrink in numbers and significance or to close down altogether. States will probably allow all kinds of concessions to the public sector to ensure that they do not come off worse in a battle with the private sector for enrolments.

In fact such a fight to the death is unlikely, as the demand for adult and recurrent education will conveniently grow as the college-aged population shrinks. Public and private universities will adapt to the new market.

But here again the private sector may suffer: many of its colleges are too small to be able to make the changes and to cut the wide range of courses the adult market would prefer. And public universities have already begun significantly to increase their intake of older students.

Public single-sex colleges, however, have virtually disappeared, and so women wanting to do high on their own academic merit are increasingly drawn to the few prestigious women's colleges.

Denominational education cannot be publicly provided because of the constitutional separation of church and state. It was said that the demand for religiously-based higher education would fall off quickly but the figures have not borne this out. Indeed, enrolment at denominational secondary schools and colleges has risen fairly sharply in the past two or three years.

The churches themselves seem determined to continue to support higher education: the Methodist Board of Christian Education and the United Methodist Board of Christian Education will be left to fend for themselves but there are many others that will continue to receive large sums in aid. And America's largest private university, Brice Young, is closely connected to the Methodist Church.

The Catholic universities in America are also generally managed to meet their appeal, both by liberalising and, paradoxically, by reaffirming a spiritual role. They have been greatly encouraged by the example of Notre Dame, in Indiana, whose charismatic President, Father Theodore Hesburgh, has regularly been voted both the most influential man in the Catholic Church in America and the most influential man in higher education today.

The other main factor that should guarantee a place for private education for a long time is the demand for single-sex education in private schools with specific religious orientation. Women's colleges have been shown to be very supportive to women, and to produce high academic standards and motivation.

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Carnegie shows government as blacks' main job benefactor

One out of every eight black American men with a degree is employed by the federal government, according to a recently published study. In some fields the importance of government employment to black graduates is even greater: it accounts for one in four black male scientists and computer specialists and for one in five engineers and accountants.

The study is one of the very last to be issued by the Carnegie Commission on Higher Education, a commission that produced a shelfful of studies covering every aspect of higher education, and which officially wound up its work in 1973. It has been succeeded by the Carnegie Council for Policy Studies in Higher Education.

This last report, by Professor Richard Freeman of Harvard, found that overall the federal government employs about 5 per cent of all American graduates—but only 3 per cent of all Americans who work.

Professor Freeman said the high proportion of black professionals working for the government was a major factor underlying the substantial gains blacks have made during the past decade in breaking traditional patterns of education.

It was not a new phenomenon for so many blacks to work for the government, he said, because government had been less discriminatory against blacks. But the extent of it was startling.

Industry had also actively recruited black graduates. But while black education and experience earned far more in government than in private business—whereas the opposite was true for whites.

Scientists warn against local genetic bans

American scientists have given a warning that any legislation allowing local communities to ban genetic research or setting strict regulations that the national guidelines would set a dangerous precedent.

Members of the National Academy of Sciences said in a resolution that the research legislation of America were a national resource and that different local opinions could subject that resource to arbitrary regulations.

"Overly restricting this type of research would severely degrade the capability of biomedical research and limit its contribution to the public welfare. In essence, it would allow a local component of national policy."

The signatories said the National Institute of Health guidelines on recombinant DNA research were the result of careful deliberation, and should form the basis of a uniform national set of regulations. But the proposed legislation to get up a national regulatory commission to govern this research would have broad powers of control and signatories said, "represent a wholly new and unfortunate departure."

The legislation proposed by Congress is still only in the committee stage, and a final draft has yet been approved by either the Senate or the House of Representatives.

But a member of the staff of Senator Edward Kennedy, who is proposing the Senate Bill, said he had no intention of university research: the Bill was only aimed at safeguarding the method.

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Dons strike over sack threat

1100 John Horgan DUBLIN

The Catholic bishops, who are the trustees and governing body of St. Patrick's College, Maynooth, have issued dismissal notices to two academics in what has become a cause célèbre in university circles throughout the Republic.

The dismissal notices followed hard on the heels of a one-day strike organised at St. Patrick's by the Irish Federation of University Teachers (IFUT).

The strike, the first ever at a university institution in the Republic, was called in protest at letters sent to the two men threatening them with the sack if they did not submit their resignations (THESE, March 18 and May 6).

At the centre of the dispute are Dr J. McGrath, a priest who is professor of logic at Maynooth, and

Mr Malachy O'Rourke, a former principal, who is a lecturer in French. Maynooth is a recognized college of the National University of Ireland and is due under higher education reorganization plans to become a university in its own right. It is also the country's major national seminary.

Because it is part of NUI, Maynooth's salary bill is met by the government. But the bishops, as governors, have the right of hire and fire.

The hierarchy has not made public its full reasons for trying to dismiss the two men. But they have said that by becoming laicized Mr O'Rourke has forfeited his right to teach. Professor McGrath's writings are held by the bishops to have brought the Church into "disrepute".

The dispute has led to serious divisions among the senior adminis-

trators and academics at St. Patrick's. Much argument has centred on whether the matter is for the Church to deal with alone or whether the men should go to the country's Labour Court. Recently, for example, the bishops rejected the offer of mediation by the Ministry of Labour.

The affair has substantial implications for the impending legislation which will make Maynooth independent. There are certain to be calls to make its governing body more broadly based.

Father McGrath and Mr O'Rourke have been given 15 days in which to show why they should not be dismissed. The bishops have the discretion to hold an oral hearing on their case but the only appeal thereafter is to Rome.

IFUT, meanwhile, is considering plans to resume the strike action to other campuses.

Student numbers fail to match expectations

West Germany

Entrants to West Germany's higher education institutions are not meeting the numbers predicted by the important educational planning and policy-making bodies. Provisional figures just published by the Federal Statistical Office reveal that since 1973 the number of new students has hardly varied from one year to the next.

Combining the figures for the summer and winter semesters there were in 1973 165,000 students newly registered at higher education institutions. The number of first year students in the following year was 168,100 (plus 1.8 per cent), in 1975 167,500 (minus 0.4 per cent), and in 1976 168,100 (plus 0.4 per cent).

These statistics are puzzling for they seem to run counter to the development observed up to 1973 and the trend predicted well into the 1980s. According to the most recent forecasts of the Standing Conference of the Länder Ministers of Education, for example, the number of school leavers with university or college entrance qualifications is expected to continue to rise from 165,000 in 1975 to 210,000 in 1980 and to 250,000 in 1985.

This is due to the steady increase in the size of the 19 to 21 age group which in turn is the outcome of the post-war baby bulge. This trend is expected to be reversed only from 1984 onwards. Even then, the number of applicants is not expected to drop proportionately because a higher percentage

of school leavers would be qualified for university entrance.

Forecasts generally assumed that about 90 per cent of these qualified pupils would proceed to higher education. This percentage is now in doubt although precise information is not yet available. It may even be possible that fewer school leavers than expected obtained the *Abitur* or equivalent entrance qualification.

The Federal Ministry of Education has now called for an urgent inquiry into the phenomenon and its reasons. How are these missing students distributed among male and female school leavers, social class and subject of study? What influence is due to the *numerus clausus*? Is the pupils' decision to proceed to higher education final, or have they merely delayed their applications? These are the kind of questions which will be asked.

Despite the by and large constant number of university and college entrants, the total number of students has, however, increased each year. In 1973 there were 690,000 students, in 1974 750,000, in 1975 802,000, and in 1976 838,000.

This is explained by the continuing trend to lengthen the time a student spends in higher education before graduating. The average for a university student is now six and a half years, and there is a similar increase in the case of students of medicine, of foreign languages or of engineering.

Medical schools 'saturated'

Switzerland

Medical schools at Zurich, Berne, Basel, Lausanne and Geneva have reached saturation point, according to the Swiss University Conference, the main coordinating committee for higher education in the federation.

As a last-minute measure to deter applicants, the conference has sent out a letter to school leavers, pointing out the disadvantages of studying for a medical career: the costs, the difficulty of the examinations and the length of course.

For those not swayed by these arguments the conference cannot guarantee they will be able to study in the medical school of their choice.

The conference said that the major priority was to maintain standards and to cut back the spiralling costs of medical studies imposed on the community. One year's clinical study is reckoned to cost the community around £11,000 a student. But if the number of medical students, from 3,117 in the winter term 1960-61, were to reach 4,584 in 1975-76, the total cost would be £50 million a year. The total capacity of the five medical schools in Switzerland is no more than 1,050 a year.

Recognition problems may face new Transkei university

South Africa

The Prime Minister of the Transkei, Chief Kaiser Matanzima, has been installed as the new University of Transkei's first chancellor—six months after the country's controversial independence.

Registration in Umtata marked the end of the university's status as a college of the University of Fort Hare, one of South Africa's black homeland universities. The multi-racial university has 300 students enrolled this year and will award its first degrees in 1979.

In view of the Transkei's independence situation, the university may encounter difficulties in gaining international recognition. The rector, Professor van der Merwe, called on all races to join hands in shaping the university's cultural role.

Meanwhile, friction has developed over the future of the University of Fort Hare. Although situated in the Ciskei, the university is controlled from Pretoria by the central government without Ciskeian participation. Chief Jongilang, has attacked South Africa for the lack of representation on the university's council, and indicated that his government might consider "seizing

EEC go-ahead for lawyers

The 125,000 lawyers in the EEC will be able to provide their services in any of the member states as from March 22, 1979. A directive to this effect has just been passed by the Council of Ministers.

The right to provide services differs from the right of establishment which, for instance, enables doctors as from December last year to set up a practice anywhere in the Community. The latter entails mutual recognition of qualifications and diplomas which, as yet, remains a distant objective for the legal profession.

The present directive is based on the mutual recognition of the status of lawyer as defined in each member state. In Britain's case this includes advocates, barristers and solicitors.

A lawyer providing services is exempt, in the host member state, from any condition requiring residence or registration with a professional organisation. But in exercising the right to represent a client before the courts or public authorities, he must practise under the same conditions as lawyers established in that state. Thus he is subject to the same code of professional conduct.

As far as Britain is concerned, the directive recognises what in practice has been happening for a long time. Its advantage, however, is to enable a solicitor or barrister to advise or represent his client without having to apply for admission to the Bar or to be faced with other procedural difficulties.

Denmark

'Red' campus dispute leads to shutdown

from Mike Duckenfield

STOCKHOLM For the second year in succession, Danish higher education has been brought to a standstill as students throughout the country boycott lessons and occupy university buildings in support of protesting colleagues at the Marxist-oriented Roskilde University Centre.

The boycott, which began at Roskilde on April 19, now involves more than 20,000 students with occupations at all five universities, including 16 institutes in the capital Copenhagen.

Some exams have already had to be cancelled, although occupying students have allowed university administrators involved in preparing exams to continue work. However, Dr Morten Lange, Rector of Copenhagen, has refused to let administrators work until all occupations end.

The dispute—the latest in a long sequence of conflicts at Roskilde—centres on the decision by the government, in collaboration with the university's three external rectors, to halt intake to the two-year basic course in social sciences for a year. No more students will be admitted until autumn next year.

The social science faculty is the largest of the three at Roskilde, which has a total student population of 1,600. Last autumn 150 of the 350 new students entered the faculty compared with 140 for the humanities and only 50 in the natural sciences.

This autumn, Roskilde's expected 330 new students, 230 will go to the humanities and 100 to natural sciences. The social science faculty will mean redundancy for 10 teachers and the students' action has been strongly supported by staff in the faculty and, to a lesser extent, throughout the centre.

The decision to halt intake follows the failure to agree a new curriculum for the social science course. Changes were accepted by the other faculties in discussions after the introduction of direct Ministry rule and superimposition of the external three-man rectorate by Education Ministers Bjarne Riis and Morten Søgaard at the end of 1975.

France

Political activism under fire

from Guy Neave

A new attack against growing political activism inside the education system has been made by Madame Alice Saunier-Seïte, Secretary of State for Higher Education, in a speech to the middle-of-the-road *Fédération Nationale des Syndicats Autonomes de l'Enseignement Supérieur*, the Secretary of State placed the blame for this development on the *loi d'orientation* of 1968.

The law passed in the wake of the May uprising, brought about fundamental changes in both teaching and the administrative structure of French universities. It divided the older and often monolithic institutions such as the Sorbonne into smaller groupings, termed *Units for Education and Research (UER)*. It also gave them consid-

erable financial and administrative autonomy as well as shifting the emphasis in teaching from lectures to seminars.

Granted that she was speaking to the main bulk of examiners sitting under her wing, the pressure for a compromise is increasing and an eventual settlement allowing some students to enter the social sciences this autumn, which more in the spring Bjarne Riis and Morten Søgaard at the end of 1975.

Each of the three faculties would be roughly the same size with between 60 and 80 teachers in each, thus ending the dominance of the social sciences. At present there are 62 social science teachers compared with only 47 in the humanities and 27 in the natural sciences.

This long-term road away from the social sciences—especially full degree studies—and towards short-term vocationally oriented technology, the students' action is not only partly explains the widespread support Roskilde students are getting in the current dispute.

Despite the recurrence of disruptions at Roskilde, its future looks more secure than a year ago, when only two votes saved it from closure by Parliament. In the February general election the Social Democrats strengthened their hold on power at the expense of the right wing parties which have been most vocal in trying to close the faculty and, to a lesser extent, throughout the centre.

Mrs Bjarne Riis's low-key policy has been to leave the dispute to the university authorities. With the main bulk of examiners sitting under her wing, the pressure for a compromise is increasing and an eventual settlement allowing some students to enter the social sciences this autumn, which more in the spring Bjarne Riis and Morten Søgaard at the end of 1975.

Australia

Union backs voting system

from William Purvis

STUDENTS at tertiary institutions throughout Australia have endorsed the proscure collegiate voting system for the Australian Union of Students despite allegations that the system favoured left-wing radicals said to be in control of the union.

The attendance at the meetings to discuss the voting change was significantly higher in most places than in previous years, and support for an anti-government campaign 10 days earlier.

The AUS then called for a total boycott of lectures and organized public rallies. However, student numbers at most institutions were only slightly below normal and the total attendance at the rallies was about 5,000—about 2 per cent of the total AUS membership.

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Sydney University, the University of New South Wales, Monash University and the University of Melbourne were the only institutions to support the system. Advocates of change said this indicated the general desire

